

RESEARCH NOTES

A NEW CHILEAN FROG OF THE EXTRA-ANDEAN ASSEMBLAGE OF *TELMATOBIUS* (AMPHIBIA: LEPTODACTYLIDAE)

While working at the British Museum (Natural History) in 1972, I had occasion to examine two specimens of a small leptodactylid collected in southern Chile in 1958. Alice G. C. Grandison thought the frogs might represent an unnamed genus related to *Eupsophus*, a genus she had revised, and urged me to describe the frogs. The characteristics she had noted immediately made it apparent that the frogs represented a new taxon but also presented a problem in that the combination of characteristics embodied in these frogs made their assignment to any currently recognized genus difficult. As Miss Grandison noted, proposing a new genus might solve the problem, but it would also leave a number of questions of intergeneric relationships of Patagonian frogs unaddressed.

The new frog is small, has appreciable webbing of the toes, nuptial asperities on the thumb and second finger, completely roofed skull (no exposed fontanelles), and has lost the middle ear and quadrotugal. This combination of traits is unique but approached by a group of Patagonian leptodactylids presently assigned to *Telmatobius* [*T. nitoi* Barrio, *T. patagonicus* (Gallardo), *T. praebasalticus* Cei and Roig, *T. reverberii* Cei, *T. solitarius* Cei, and *T. somuncurensis* Cei]. Anatomical and systematic studies of that assemblage are in progress and rather than complicate that study with the description of a new species, I will present the species description here even though the generic classification used here will be altered in a subsequent report.

In recognition of her important contribution to leptodactylid systematics and to her encouragement in naming this frog, I hereby name the new species after her.

Telmatobius grandisonae, new species

Holotype.—BM 1962.629, adult male collected on the Plateau below the south peak, Puerto Eden, Wellington Island, Magallanes, Chile, 640 m, by the Royal Society Expedition to South Chile, December 1958.

Paratype.—BM 1962.628, juvenile female taken with the holotype.

Diagnosis.—A stout-bodied frog of the extra-Andean group of *Telmatobius* differing from the six described species in having complete frontoparietals (no fontanelles exposed); and differing from all in the following combination of characteristics: toes nearly fully webbed but deeply incised (appearing less than half-webbed), full compliment of teeth (prevomerine

odontophores prominent; premaxillary and maxillary teeth large, well-ankylosed to jaws), omosternum long but dilated into a broad manubrium, sternum not notched, dorsum brown without a pattern of spots or bars, venter reticulated with brown.

Description of holotype.—Snout short, round in dorsal view and in lateral profile, not greatly overhanging lower jaw; nostrils directed dorsolaterally, weakly protuberant; canthus rostralis rounded, concave; loreal region weakly concave, sloping abruptly to lip; lips not flared; eyes large, interorbital space flat, narrow relative to upper eyelid width; interorbital distance less than internarial distance; supratympanic fold thick, extending from posterior corner of eye to insertion of forearm; tympanic annulus, cavum tympanicum, and plectrum absent; choanae round, moderate-sized, not concealed by palatal shelf of maxillary arch; prevomerine odontophores prominent, oval in outline, each as large as a choana, situated between and partially posterior to choanae, nearly in contact, each bearing 3–4 teeth; tongue round, not notched posteriorly, posterior one-half not adherent to floor of mouth; no vocal slits.

Skin of dorsum, top of head, and upper flanks bearing numerous large warts; side of head, lower flanks, and limbs lacking such warts although shanks bear ill-defined warts; skin of venter smooth; weak areolations below and lateral to vent; no dorsolateral, paravertebral, or vertebral folds; forearms robust but not markedly so; no ulnar tubercles; palmar tubercle weakly bifid, larger than oval thenar tubercle; no supernumerary palmar tubercles; subarticular tubercles low, flat, rounded or slightly broader than long; digit tips without pads, weakly bulbous; no lateral fringes on fingers; thumb thicker than second finger, equal in length; nuptial asperities fine, covering medio-dorsal surface of second finger from near its tip proximally to base of finger, on thumb extending ventrally onto outer edge of thenar tubercle.

No tubercles on heel or tarsus; inner edge of tarsus bearing flap-like fold beginning at base of terminal phalanx of toe I and extending proximally on tarsus for three-fourths its length; two metatarsal tubercles, both low, flat; inner elongate (length twice width), a little smaller than round outer; no supernumerary plantar tubercles; outer metatarsals not united; subarticular tubercles smaller than those of fingers, low, non-conical, round or slightly longer than wide; digit tips not bulbous; outer edge of toe V bearing free flap from base of terminal segment to base of toe (Fig. 1); toes webbed, fringe not extending onto terminal segment of any toe; webs deeply incised so that toes appear less than one-half webbed.

Color in preservative.—Brown above and on limbs; some gray infusion on side of head and flanks; venter white with brown flecks; flanks marbled gray and brown.

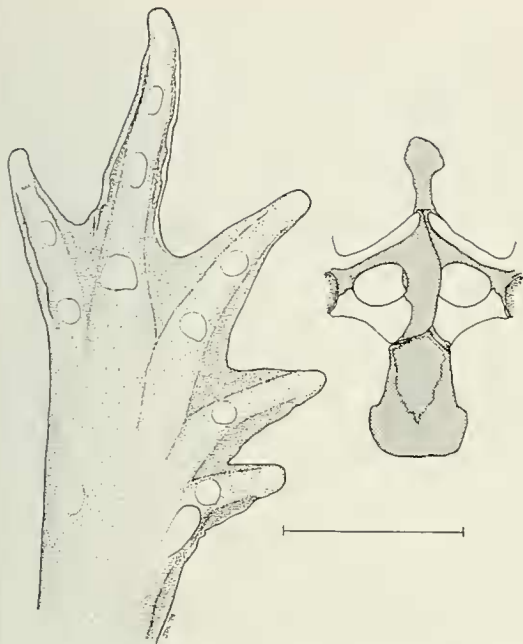


Figure 1. Foot and pectoral girdle of *Telmatobius grandisonae*, new species, (BM 1962.629). Line equals 5 mm.

Measurement of holotype in mm.—SVL 32.9; shank 14.0; head width 10.8; head length 10.6; upper eyelid width 3.2; interorbital distance 2.1; eye length 3.7; eye-nostril distance 2.5.

The paratype is an immature female, 25.7 mm SVL. The oviducts are weakly convoluted and the ovaries contain many minute nonpigmented eggs. The skin of the dorsum, head, and flanks is shagreened rather than covered with large warts.

Remarks.—The skin of the head of the holotype was cut and reflected to expose the skull bones. The frontoparietals are complete and medially extend anteriorly between the posteromedial edges of the nasal bones. The nasal bones are relatively large and narrowly separated medially. The maxillary arch is incomplete in that the quadratojugal is absent. The squamosal is unmodified with moderate length otic and zygomatic rami.

The pectoral girdle (Fig. 1) has a large omosternum with a dilated manubrial portion. The epicoracoidal cartilages are calcified in the area of overlap but the girdle is strictly arciferal. The clavicles are massive and weakly curved. The sternum is broad, non-bifurcate, posteriorly weakly expanded, and has a rather large calcified center.

Comparisons.—*Telmatobius grandisonae* differs from all other extra-Andean species except *T. somuncurensis* in having a dilated manubrial portion of the omosternum. Like all except *T. somuncurensis*, *T. grandisonae* does not have a bifurcated sternum. Both *T. grandisonae* and *T. somuncurensis* have cal-

cified elements in the sternum but the element is single in *T. grandisonae* and paired in *T. somuncurensis*. The absence of an exposed frontoparietal fontanelle distinguishes *T. grandisonae* from the other species of the group (in the six Argentine species the fontanelle varies from small in *T. nitoi* and *T. somuncurensis* to extensive in *T. patagonicus* and *T. praebasalticus*). The toes of *T. nitoi*, *T. patagonicus*, and *T. praebasalticus* are all more fully webbed than in *T. grandisonae* which in turn has greater webbing than *T. reverberii*, *T. solitarius*, and *T. somuncurensis*. Additionally, *T. somuncurensis* has an ear (unlike all other species of the group) and *T. reverberii* and *T. solitarius* are pale frogs with large dorsal spots.

Ecology.—Both specimens were taken under stones in moorlands. The habitat was described by Grandison (Bull. British Mus. Nat. Hist., 8:120–121, 1961) from notes made by the zoologist on the expedition, Martin Holdgate. On the basis of these limited data, *T. grandisonae* must be viewed as at least a semi-terrestrial species not unlike *T. solitarius*, but quite unlike *T. patagonicus*.

Grandison (*supra cit.*) reported *Eupsophus copingeri* (= *E. monticola*, fide Lynch, Herpetologica, 24:255–57, 1968) from Puerto Eden and although not reported, one might expect to find *Pleurodema bufonina*, *Batrachyla leptopus*, and *Bufo variegatus* at Puerto Eden as well (Cei, *Batracios de Chile*, Santiago, 1962). *Telmatobius grandisonae* differs from all but *E. monticola* in lacking an ear. *Pleurodema bufonina* has prominent inguinal glands and like *B. leptopus* lacks webbing and tarsal folds. *Batrachyla leptopus* has a long snout unlike *T. grandisonae*. *Bufo variegatus* lacks teeth and has parotoid glands and a distinct color pattern. *Eupsophus monticola* has pectoral nuptial asperites and enlarged forearms (in breeding males), complete maxillary arch, notched sternum, and less toe webbing (see illustration in Grandison, 1961).

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A NEW SPECIES OF *NEOTROMBICULA* (ACARINA: TROMBICULIDAE) FROM SOUTHERN CALIFORNIA

In a recent study, Spoecker (1967) reported the ectoparasites of a Mojave Desert population of side-blotched lizards *Uta stansburiana*, in Kern County, California. Examination of those chiggers listed as *Neotrombicula* species revealed that they represented a new species closely similar to described species belonging to the *microti* group.

The following description is based on the holotype and paratypes (noted in parentheses), with all